2005. In 2005, USA ranked 1st, China 5th, India 14th while Brazil and Pakistan ranked 16th and 19th respectively in terms of the number of scientific papers published.

**Transmission and distribution losses**

†*355. SHRI RAVI SHANKAR PRASAD:

SHRI RAJ MOHINDER SINGH MAJITHA:

Will the Minister of POWER be pleased to state:

(a) whether it is a fact that there is an average 31 per cent distribution and transmission losses of power in the country;

(b) if so, the facts in this regard;

(c) whether it is also a fact that international standards for T&D losses of power stands at an average of 12 per cent to 14 per cent only;

(d) if not, the facts in this regard; and

(e) by when Government will ensure to bring average T&D losses of power at par with international standards by making improvement in distribution and transmission of the country?

THE MINISTER OF POWER (SHRI SUSHIL KUMAR SHINDE): (a) and (b) As reported by Central Electricity Authority (CEA), the transmission and distribution (T&D) losses in the country were 31.05% in the year 2004-05.

(c) and (d) T&D losses of some of neighboring and major countries are as under:

| Sl. No. | Name of the countries | T&D losses (%age) |
|---|---|---|
| 1 | 2 | 3 |
| 1. | China | 7 |
| 2. | Myanmar | 20 |

†Original notice of the question was received in Hindi.

| 1 | 2 | 3 |
|---|---|---|
| 3. | Bangladesh | 18 |
| 4. | Sri Lanka | 18 |
| 5. | Nepal | 21 |
| 6. | Pakistan | 26 |
| 7. | Japan | 4 |
| 8. | Australia | 7 |
| 9. | United Kingdom | 8 |
| 10. | United States of America | 6 |
| 11. | Nigeria | 38 |
| 12. | Albania | 51 |
| 13. | Brazil | 17 |
| 14. | Kenya | 21 |
| 15. | Tanzania | 25 |
| 16. | Zimbabwe | 21 |

(e) Government has already started taking measures to reduce the T&D losses. These are:—

(a) Technical Measures:

* Installation of Efficient meters.
* Upgradation and strengthening of the weak distribution system.
* Increase in HT:LT Ration.
* Relocation of distribution sub-stations and/or provision of additional distribution sub-stations.
* Installation of lower capacity distribution transformers to serve a smaller number/cluster of consumers and substitution of distribution transformers with those having lower no-load losses.
* Installation of shunt capacitors.

* Adoption of High Voltage Distribution System (HVDS).
* Regular maintenance of distribution network.
* GIS mapping of sub-transmission of distribution network including compilation of data.
* IT intervention.

(b) Commercial Measures

* Improvement in metering and billing.
* Improvement in revenue collection.
* Energy accounting and auditing.

(c) Management Measures:

* Adoption of energy accounting and auditing.
* Proper network planning for future expansion.
* Preparation of long-term plans on regular basis for phased strengthening and improvement of the distribution systems along with associated transmission, system.
* Traning of employees.

(d) Policy Measures:

* Setting up of vigilance and legal measures in accordance with Electricity Act 2003, setting up of special courts, police stations, etc.
* Implementation of the Accelerated Power Development and Reforms Programme (APDRP) for upgradation and strengthening of sub-transmission and distribution system and providing incentive for reducing cash losses by SEBs/Utilities.

**Photo identity cards to voters**

*356. SHRI ABU ASIM AZMI: Will the Minister of LAW AND JUSTICE be pleased to state:

(a) the total number of voters in the country, State-wise as on the 30th June, 2006;